The procedure he recommends is to keep the broth culture of the bacilli for the six hours preceding the examination at a temperature of 37° C., so as to secure their active growth ~~; to use as a diluent a simple sterilized~~ broth, and, rejecting all elaborate apparatus, to employ only a capillary pipette graduated to measure $\frac{1}{100}$ c.cms.

He begins by making a 1 : 10 dilution of the serum and adding it to an equal volume of the culture. If the result be negative, nothing more is needed; but if positive, he tries the effect of 1 : 40 and 1 : 50, the indications of which, whether positive or negative, are to be taken as conclusive, unless there be grounds for suspecting that the reaction may be owing to a remote attack, or that the disease be not further advanced than the first week; in either of which cases the examination should be repeated a week or so later.

Microbe of Acute Rheumatism.—The frequent association of acute rheumatism or rheumatic fever (neither name being satisfactory in the light of modern views as to the etiology and relation of the so-called acute and chronic rheumatism) with cerebro-spinal meningitis, now acknowledged by all to be a bacterial and infectious disease, and with tonsillitis, many forms of which are certainly so, has for some time suggested the possibility of its being, like malaria, parasitic, though not communicable.

Pierre Achaime, so long back as 1891, in a communication to the Société de Biologie, described an organism which he had found in the blood of a man suffering from rheumatic fever with cerebral complications, and which he believed to be pathogenic, giving it the name of *Thiroloix Achaimii.* In the *Annales Pasteur* of November, 1897, he states that he has since been able to identify it in eight cases, and that it has been observed also by Lucatello at Genoa and Riva at Parma in this disease, but in no other. In two fatal cases he found it in enormous numbers in the cerebro-spinal fluid, where it was present as an almost pure culture; but that its presence in the blood of the living subjects could be demonstrated only by artificial cultivation in a mixture of bouillon and milk maintained for eight to ten days at temperature of 37° C. under anaërobic conditions. Its form varied considerably with the culture media employed, but it grew better in liquids than in solids and at a temperature of 35° to 38° C., the extreme limits being 25° and 40° C.

Growth of Bacteria in Sterilized Milk.—Milk when drawn from the udder of a healthy cow is perfectly sterile, and all the so-called "spontaneous" changes of souring, curdling, and putrefaction are the results of the introduction of successive contingents of bacteria, beginning with B. coli, in the process of milking, which multiply until in the shops they number tens of thousands or even millions in the c.cm. Sterilizing the fresh-drawn milk, besides destroying any pathogenic germs that may chance to be present, delays the souring until after the vessels have been opened, but recent observations of SCHOTTELIUS show that it does more, and that the proliferation of bacteria proceeds with but a tenth part of the rapidity exhibited in fresh unboiled milk under identical conditions; at any rate, this was the case with those of diphtheria. He added 1 c. cm. of a bouillon culture to 2 c. cms. of (1) fresh milk drawn from the cow with every precaution, and therefore sterile, (2) sterilized milk, and (3), by way of comparison, sterilized bouillon; one set of tubes having been kept at the ordinary temperature of the room, and the others at that of the body; the enumerations were made at the end of six hours. The exact number of bacteria introduced is not stated, but uniformity was secured by the inoculations being performed simultaneously from a culture that had been well agitated.

The results were: Raw milk, 21,280,000, at 15 per cent.; 50,160,000, at 37 per cent. Bouillon, 7,600,000, at 15 per cent.; 18,240,000 at 37 per cent. Sterilized milk, 2,200,000, at 15 per cent.; 6,080,000, at 37 per cent.

Alcohol in Milk.—The effect of brewers' grains, distillery swill, ensilage—in short, of fermented fodder of any kind—on the milk of cows in rendering it prone to turn sour within twelve hours and to set up gastro-intestinal disturbance in infants is so well known that the use of such foods is expressly prohibited in the contracts between the great dairies, the condensed-milk companies, etc., and the farmers from whom they obtain their supplies; but whether alcohol ever passes over as such into the mammary secretion of the cow or of the human female is a point that has been denied on negative and maintained on insufficient evidence. A recent observation by H. WELLER has, however, proved the possibility of such a result beyond question, for he was able to recover 0.96 per cent. of alcohol from the milk sent out from a dairy owned by the proprietors of a large distillery, where, in addition to cake and other fodder, the swill, containing 5.9 per cent. of alcohol, or as much as is present in strong ales, was given to the animals, though in what quantity is not stated. The milk examined was perfectly fresh and otherwise of normal composition, without a trace of souring. The specific gravity was 1.0335, the total solids 13.307, and the fat 3.79 per cent. It had, however, a peculiar harsh taste, of which the consumers complained, and which Weller found to be due to a flocculent substance present in the distillery waste and in the milk, the nature of which he does not seem to have taken any means to determine.

Transmission of Infectious Diseases through the Air.—DR. EDUARDO GERMANO, continuing his researches on this subject, the first of which were referred to in the March number of this JOURNAL, finds that the diphtheria bacillus (*Zeitschrift f. Hygiene und Infectionskrankheiten*, xxv. p. 439) withstands long drying in membranes, tissues, and dust, even when the drying process is assisted by sulphuric acid, and that its resistance is greater according to the amount of the enveloping material which retards oxidation. When completely dry it preserves its full virulence up to the time it dies. He concludes that the air can disseminate the bacilli in an active condition in the form of dust. As to erysipelas, pneumonia, and other streptococcus infections, he finds (*Ibid.*, xxvi. p. 66) that the resistance of streptococcus to the drying process, while varying according to the method followed and to the enveloping material, is always high, and may last a number of months, and that the air may be credited with an important share in the transmission of infections. The diplococcus in general can bear drying for a long time, but some varieties show but little resistance, and, as a rule, it lasts better dry than moist. Its duration of life is not affected by the rapidity of the drying process with medium temperature. While it has not the resistance shown by the streptococcus, its dissemination through air must be regarded as possible.